ABSTRACT

The Development of a Linus-Compatible Slow Control Interface for the MINERvA Data Acquisition Electronics

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As the MINERvA neutrino-nucleus interaction experiment at Fermilab transitions from its tracking prototype detector to the full detector, its data acquisition system shifts from Microsoft Windows to Scientific Linux. This change provides performance benefits for the experiment's detector readout and alleviates some cross-platform compatibility issues. However, the change in operating system brings about a need for a new readout library to access information in the detector's electronics, and an accompanying graphical user interface. This interface, the slow control, allows users to send messages to the MINERvA detector and configure its electronics for a run. A Linux-compatible slow control interface was developed at Fermilab in June and July 2009. Written in Python, it uses the wxPython library and communicates with the readout library, enabling users to monitor the data acquisition electronics in an environment free of programming syntax.